

UNIVERSAL CLEAT

Cross-Reference to Related Applications

The current application is a continuation of U.S. Patent Application No. 09/771,416, filed on January 21, 2001, and claims the benefit thereof under 35 U.S.C. § 120. The current application is also related to U.S. Design Patent Application 29/136, 265, filed January 21, 2001, and which issued as U.S. Design Patent No. D454, 681 on March 26, 2002.

Background of the Invention

The present invention relates to cleats for athletic shoes, and particularly baseball cleats.

A problem for sporting goods retailers is that there are many different types of cleats. The cleats are typically removably mounted in a recess in the sole of a baseball shoe being held in place with a retaining screw that extends through a circular retainer hole in the cleat into a threaded opening in the recess. Manufacturers of baseball shoes, such as Nike, Easton, Adidas, and Reebok, each have their own proprietary cleat. These cleats differ in shape, sometimes have projections on the bottom, and have the retainer hole located in different places. Thus, the cleat of one manufacturer usually does not fit the shoe of a competitor.

This requires a retailer of baseball shoes to carry multiple different types of cleats. This creates inventory problems, and also leads to problems for the customer, because many times retailers do not have an adequate supply of the cleats from every manufacturer.

Attempts to carry just one type of cleat from one manufacturer have been unsuccessful because the cleats from one manufacturer generally do not fit into the recesses in the soles of the baseball shoes of another manufacturer. One reason for this is the belief that the cleats must snugly fit into the recess so that there is no wiggle, with the cleats retained firmly in place, even without the retaining screw.

Thus, from the retailer's and customers' standpoint, it would be desirable to have a universal cleat that could be used with the baseball shoes of multiple manufacturers.

SUMMARY

The present invention is directed to a cleat that satisfies this need. A cleat according to the present invention is universal in that is suitable for use with multiple different types of shoes, such as baseball shoes, from different

manufacturers. Such shoes have a recess in the sole for receiving a cleat. The recess has an opening therein for receiving a retaining screw to hold the cleat in place. The universal cleat comprises a generally triangular base with a substantially flat bottom for fitting in a plurality of different shaped recesses in different shoes. There is a grip projecting from the base in a plane substantially perpendicular to the plane of the base, and an oblong shaped mounting hole in the base for receiving the retaining screw.

Preferably the cleats are sized so that the perimeter of the base is smaller than the perimeter of the respective recess so that in the absence of the retaining screw, the cleat can wiggle in the recess. Preferably the length to the width of each mounting hole is from about 8:7 to about 10:7, and most preferably is about 9:7.

Surprisingly, it has been found that even though the cleats of the present invention have a flat bottom base, and thus no projections for engagement with the bottom of the shoe recesses, are sized to provide wiggle room, and use an oblong shaped hole instead of a circular hole, the cleats perform well in use. It has been found that the retaining screw itself sufficiently retains the cleat in place to give optimum performance to a baseball shoe, without all the other retention mechanisms provided by manufacturers. Thus, retailers and baseball players can maintain a supply of only a single type of cleat, namely, the universal cleat of the present invention, rather than maintaining an inventory of two or more different types of cleats.

DRAWINGS

These and other features, aspects and advantages of the present invention will become better understood from the following description, appended claims, and accompanying drawings where:

FIG. 1 is a perspective view of a cleat according to the present invention, with the cleat being upside down from its position when in use;

FIG. 2 is a side elevation view of the cleat of FIG. 1, where the side elevation view of the opposite side is a mirror image of FIG. 2;

FIG. 3 is a front elevation view of the cleat of FIG. 1;

FIG. 4 is a rear elevation view of the cleat of FIG. 1;

FIG. 5 is a top plan view of the cleat of FIG. 1;

FIG. 6 is a bottom plan view of the cleat of FIG. 1;

FIG. 7 is a sectional view of the cleat of FIG. 1 taken on line 7-7 in FIG. 3;

FIGS. 8-11 are perspective views of the recesses on the bottom of Reebok, Easton, Adidas, and Nike baseball shoes, respectively, for receiving a cleat; and

FIG. 12 is a perspective view of another version of a cleat according to the present invention.

DESCRIPTION

With reference to FIGS. 1-11, a cleat **10** according to the present invention is useful with any of the baseball shoes **12A**, **12B**, **12C**, and **12D** shown in FIGS. 8-11, respectively. The particular shoes **12** shown in the drawings are baseball shoes, but it should be recognized that cleat **10** according to the present invention can be used with other types of athletic shoes.

As is typical with baseball shoes, there are a plurality of recesses **14** in the sole **16** of the shoe. The recesses **14A**, **14B**, **14C**, and **14D** of shoes **12A**, **12B**, **12C**, and **12D**, respectively, differ from each other. Because of this, a cleat that is specifically designed for each of the shoes does not fit in a recess of any of the other shoes. As shown in FIGS. 8-11, each recess is provided with a threaded opening **18** therein for holding a cleat in the recess by means of a threaded fastener **20**.

The cleat **10** comprises a generally triangular base **22** with a flat bottom **24**, and a grip **26** projects upwardly from the base **22** in a plane substantially perpendicular to the plane of the base **22**. The grip **26** engages the turf. Because the bottom **24** of the base **22** is flat and the base **22** is triangular shaped, it can fit into different size recesses **14**, including recesses that have indents for receiving grips extending from the base as in conventional cleats.

The grip **26** has a front face **27** with a cutout **28** therein. Only the bottom portion of the cutout **28** is required in the present invention, i.e., the portion of the cutout **28** that is at the level of the base **22**. The remaining portion of the cutout **28** is for decorative purposes. The bottom portion of the cutout **28** is needed to accommodate retaining projections **30** that are present in some shoe recesses, such as those of FIGS. 8 and 9.

There is an oblong shaped mounting hole **32** in the base **22** for receiving the fastener **20**. The mounting hole is oblong shaped to accommodate the fact that the mounting holes in the shoe shown in FIGS. 8-11 are not all in the same location relative to the periphery of the base **22**. The ratio of the length "L" to the width "S" (see FIG. 5) of the mounting hole is from about 8:7 to about 10:7, and preferably is about 9:7. If the ratio is too small, not enough different types of baseball shoes can be accommodated; if the ratio is too large, the structure of the cleat is unduly weakened.

The mounting hole **32** comprises a central rectangular section **32a** and two end radiused sections **32b**.

Unlike conventional cleats/baseball shoes configurations, the surface area of the base **22** of the cleat is generally smaller than the surface area of the respective recess so that in the absence of the retaining fastener, the cleat wiggles in

the recess. For example, the surface area of the cleat can be from 85 to 95% of the surface area of the recess. This is a result of designing a universal cleat.

The materials used to construct the cleat **10** are the type typically used for such cleats. More particularly, in the version of the invention of FIG. 1, a metal insert **34** provides reinforcement in the critical stress area, i.e., where the fastener holds the cleat against the shoe sole. Preferably the metal used is cold rolled steel that is chromate treated. The rest of the cleat is molded from a durable rigid polymeric material, such as nylon PA 6-6 available from DuPont.

In an alternate version of a cleat **10A** of the invention shown in FIG. 12, the insert **34A** and grip **26A** are a single metallic piece, providing a stronger gripping portion of the cleat. The metal can be cold rolled steel that is chromate treated.

Preferably, baseball shoes are fitted out totally with cleats of the present invention. However, it is recognized that since for the most part the cleats of the present invention are used as replacement cleats, and there are occasions when only some of the cleats are replaced. Thus, conventional cleats and the cleats of the present invention can be used on a single athletic shoe.

Exemplary of the dimensions of a cleat of the present invention is a height of about 14 millimeters from the top of the grip to the bottom of the base **22**, with the base **22** having a height "h" of about 5 millimeters (see FIG. 7).

Although the present invention has been described in considerable detail with reference to certain preferred versions thereof, other versions are possible. Therefore, the scope of the appended claims should not be limited to the description of the preferred versions contained herein.

All features disclosed in the specification, including the claims, abstracts, and drawings, and all the steps in any method or process disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive. Each feature disclosed in the specification, including the claims, abstract, and drawings, can be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

Also, any element in a claim that does not explicitly state "means for" performing a specified function or "step for" performing a specified function, should not be interpreted as a "means" or "step" clause as specified in 35 U.S.C. § 112.